

# SEQUENCE LISTING

<110> Harberd, Nicholas P  
Peng, Jinrong  
Carol, Pierre  
Richards, Donald E

<120> Nucleic acid encoding GAI gene of Arabidopsis thaliana

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<141> 2001-07-25

<150> US 09/117,853

<151> 1998-08-12

<150> PCT/GB97/00390

<151> 1997-02-12

<150> GB 9602796.6

<151> 1996-02-12

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<170> PatentIn Ver. 2.0

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| Met | Asn | Glu | Glu | Asp | Asp | Gly | Asn | Gly | Met | Asp | Glu | Leu | Leu | Ala | Val | 20  | 25  | 30  |     |
| Leu | Gly | Tyr | Lys | Val | Arg | Ser | Ser | Glu | Met | Ala | Asp | Val | Ala | Gln | Lys | 35  | 40  | 45  |     |
| Leu | Glu | Gln | Leu | Glu | Val | Met | Met | Ser | Asn | Val | Gln | Glu | Asp | Asp | Leu | 50  | 55  | 60  |     |
| Ser | Gln | Leu | Ala | Thr | Glu | Thr | Val | His | Tyr | Asn | Pro | Ala | Glu | Leu | Tyr | 65  | 70  | 75  | 80  |
| Thr | Trp | Leu | Asp | Ser | Met | Leu | Thr | Asp | Leu | Asn | Pro | Pro | Ser | Ser | Asn | 85  | 90  | 95  |     |
| Ala | Glu | Tyr | Asp | Leu | Lys | Ala | Ile | Pro | Gly | Asp | Ala | Ile | Leu | Asn | Gln | 100 | 105 | 110 |     |
| Phe | Ala | Ile | Asp | Ser | Ala | Ser | Ser | Ser | Asn | Gln | Gly | Gly | Gly | Gly | Asp | 115 | 120 | 125 |     |
| Thr | Tyr | Thr | Thr | Asn | Lys | Arg | Leu | Lys | Cys | Ser | Asn | Gly | Val | Val | Glu | 130 | 135 | 140 |     |
| Thr | Thr | Thr | Ala | Thr | Ala | Glu | Ser | Thr | Arg | His | Val | Val | Leu | Val | Asp | 145 | 150 | 155 | 160 |
| Ser | Gln | Glu | Asn | Gly | Val | Arg | Leu | Val | His | Ala | Leu | Leu | Ala | Cys | Ala | 165 | 170 | 175 |     |
| Glu | Ala | Val | Gln | Lys | Glu | Asn | Leu | Thr | Val | Ala | Glu | Ala | Leu | Val | Lys | 180 | 185 | 190 |     |
| Gln | Ile | Gly | Phe | Leu | Ala | Val | Ser | Gln | Ile | Gly | Ala | Met | Arg | Lys | Val | 195 | 200 | 205 |     |
| Ala | Thr | Tyr | Phe | Ala | Glu | Ala | Leu | Ala | Arg | Arg | Ile | Tyr | Arg | Leu | Ser | 210 | 215 | 220 |     |
| Pro | Ser | Gln | Ser | Pro | Ile | Asp | His | Ser | Leu | Ser | Asp | Thr | Leu | Gln | Met | 225 | 230 | 235 | 240 |
| His | Phe | Tyr | Glu | Thr | Cys | Pro | Tyr | Leu | Lys | Phe | Ala | His | Phe | Thr | Ala | 245 | 250 | 255 |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Asn | Gln | Ala | Ile | Leu | Glu | Ala | Phe | Gln | Gly | Lys | Lys | Arg | Val | His | Val |  |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |
| Ile | Asp | Phe | Ser | Met | Ser | Gln | Gly | Leu | Gln | Trp | Pro | Ala | Leu | Met | Gln |  |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |
| Ala | Leu | Ala | Leu | Arg | Pro | Gly | Gly | Pro | Pro | Val | Phe | Arg | Leu | Thr | Gly |  |  |
|     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |
| Ile | Gly | Pro | Pro | Ala | Pro | Asp | Asn | Phe | Asp | Tyr | Leu | His | Glu | Val | Gly |  |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |  |
| Cys | Lys | Leu | Ala | His | Leu | Ala | Glu | Ala | Ile | His | Val | Glu | Phe | Glu | Tyr |  |  |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |  |  |
| Arg | Gly | Phe | Val | Ala | Asn | Thr | Leu | Ala | Asp | Leu | Asp | Ala | Ser | Met | Leu |  |  |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |
| Glu | Leu | Arg | Pro | Ser | Glu | Ile | Glu | Ser | Val | Ala | Val | Asn | Ser | Val | Phe |  |  |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |  |
| Glu | Leu | His | Lys | Leu | Leu | Gly | Arg | Pro | Gly | Ala | Ile | Asp | Lys | Val | Leu |  |  |
|     |     | 370 |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |  |
| Gly | Val | Val | Asn | Gln | Ile | Lys | Pro | Glu | Ile | Phe | Thr | Val | Val | Glu | Gln |  |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |  |  |
| Glu | Ser | Asn | His | Asn | Ser | Pro | Ile | Phe | Leu | Asp | Arg | Phe | Thr | Glu | Ser |  |  |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |  |  |
| Leu | His | Tyr | Tyr | Ser | Thr | Leu | Phe | Asp | Ser | Leu | Glu | Gly | Val | Pro | Ser |  |  |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |  |
| Gly | Gln | Asp | Lys | Val | Met | Ser | Glu | Val | Tyr | Leu | Gly | Lys | Gln | Ile | Cys |  |  |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |  |
| Asn | Val | Val | Ala | Cys | Asp | Gly | Pro | Asp | Arg | Val | Glu | Arg | His | Glu | Thr |  |  |
|     |     | 450 |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |  |
| Leu | Ser | Gln | Trp | Arg | Asn | Arg | Phe | Gly | Ser | Ala | Gly | Phe | Ala | Ala | Ala |  |  |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |  |  |
| His | Ile | Gly | Ser | Asn | Ala | Phe | Lys | Gln | Ala | Ser | Met | Leu | Leu | Ala | Leu |  |  |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |  |  |
| Phe | Asn | Gly | Gly | Glu | Gly | Tyr | Arg | Val | Glu | Glu | Ser | Asp | Gly | Cys | Leu |  |  |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |  |
| Met | Leu | Gly | Trp | His | Thr | Arg | Pro | Leu | Ile | Ala | Thr | Ser | Ala | Trp | Lys |  |  |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |  |
| Leu | Ser | Thr | Asn |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
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 Trp Leu Asp Ser Met Leu Thr Asp Leu Asn Pro Pro Ser Ser Asn Ala  
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 Glu Tyr Asp Leu Lys Ala Ile Pro Gly Asp Ala Ile Leu Asn Gln Phe  
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Trp Leu Asp Ser Met Leu Thr Asp Leu Asn Pro Pro Ser Ser Asn Ala  
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Glu Tyr Asp Leu Lys Ala Ile Pro Gly Asp Ala Ile Leu Asn Gln Phe  
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